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We claim:

1. A process for the removal of water from a mixture comprising  
5 water and zinc chloride, which comprises  
  
adding to said mixture comprising water and zinc chloride an  
aprotic, polar diluent  
  
10 whose boiling point in the case where an azeotrope is not  
formed between said diluent and water under the pressure  
conditions of the distillation mentioned below is higher than  
the boiling point of water and which is in liquid form at  
this boiling point of water  
  
15 or  
  
which forms an azeotrope or heteroazeotrope with water under  
the pressure and temperature conditions of the distillation  
20 mentioned below,  
  
and  
  
distilling the mixture comprising water, zinc chloride and  
25 the diluent with removal of water or said azeotrope or said  
heteroazeotrope from this mixture, giving an anhydrous  
mixture comprising zinc chloride and said diluent, wherein  
the aprotic, polar diluent employed is an aliphatic,  
olefinically unsaturated nitrile selected from the group  
30 consisting of 2-cis-pentenitrile, 2-trans-pentenitrile,  
3-cis-pentenitrile, 3-trans-pentenitrile,  
4-pentenitrile, E-2-methyl-2-butenitrile,  
Z-2-methyl-2-butenitrile, 2-methyl-3-butenitrile or a  
mixture thereof.  
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2. A process as claimed in claim 1, wherein the diluent is able  
to form an azeotrope or heteroazeotrope with water under the  
distillation conditions.
- 40 3. A process as claimed in either of claims 1 and 2, wherein the  
mixture comprising water and zinc chloride has a pH of less  
than 7.
4. A process as claimed in any one of claims 1 to 3, wherein the  
45 mixture comprising water and zinc chloride has a pH in the  
range from 0 to less than 7.

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5. A process as claimed in any one of claims 1 to 4, wherein an acid is added to the mixture comprising water and zinc chloride.

5 6. A process as claimed in claim 5, wherein the acid employed is HCl.

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